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Final Report

on

“Energy efficient recycling of e-scrap in South Africa”

A Sida supported Partner Driven Cooperation (PDC) project in South Africa

Executive Summary

This project “Energy efficient recycling of e-scrap in South Africa” evolved to have a much broader scope than originally envisaged. At the project’s inception the entry points and envisaged potential partners were identified to be EWASA (E-Waste Association of South Africa) and the so called MTN/GIZ project. The number of stakeholders contacted has since the projects inception been quite large. The reason is that a condition for achieving a long term sustainable e-waste recycling solution is that all the links in the value chain need to hold together and in the case of South Africa all of the links need improvement. The proverb “no chain is stronger than its weakest link” is certainly valid when it comes to create a sustainable e-waste management system. Georange has worked with companies and organizations with the focus on

a. Improved legislation
b. Increased awareness
c. Strengthening and organizing collection systems
d. Strengthening and building local recycling, up to standard, capacity

Georange has made two missions to South Africa and met with a number of globally active and national stakeholders:

a. Department of Environmental Affairs, Industrial Development Corporation (IDC) and Mintek , Rand Refinery, Eclite, Cape Chamber of Commerce, GIZ and Hand in Hand
b. Ericsson, Boliden, Electrolux, Dell, Hewlett Packard, Nokia, Philips, Outotec, MRT System, and Sims Recycling

The main outcome of this PDC is that Georange has initiated the creation of a Strategic Alliance among a number of dedicated companies. Talks are currently being held with Sims Recycling, Ericsson, Nokia, Philips, Maersk Line, Cisco, Outotec and Boliden to become the initial partners of the alliance. The objective of this alliance is to actively work with local partners on solutions on the ground around the four subject areas mentioned above. The Swedish Chamber Trade and IF Metall have also been approached to support this ambition by helping to identify committed local partners and secure the support of Labor. The intention is then to seek complementary fundingfrom Germany’s GIZ.

Purpose and Objectives of the Project

The overall objective of this project is to contribute to improved and sustainable recycling of e-waste (WEEE: Waste Electrical and Electronic Equipment) in South Africa. Improved recycling of e-waste would reduce environmentally harmful practices and significantly reduce climate footprint. Furthermore, up to standard collection and recycling of e-waste has a potential to mitigate poverty among the poor informal collectors and small backyard dismantling operations.

The specific objectives to reach the overall objectives, have been to identify reliable and committed partner organizations and companies in South Africa and Sweden (could be also non Swedish)to establish partnerships for long term cooperation along the e-waste value chain. It has been the intention of the project to help seek additional funding for activities that might be the result of matching various actors together.

Project Wide Results (by objective)

Georange made a first introductory, fact finding and relation creating mission to South Africa in late November/beginning of December 2012 and met with the two previously identified potential partners EWASA and the MTN/GIZ project as well as with the Department of Environmental Affairs, the Industrial Development Corporation, Ericsson, Dell, Hewlett Packard, Nokia, Rand Refinery, Sims Recycling, Cape Chamber and GIZ. First of all it became clear that there were certain conflicting interests between EWASA and an industry group which had been loosely formed among a few former EWASA members (Dell, HP). This latter group had started to work on a model to improve e-waste legislation which was conflicting with EWASA's ideas. The Department of Environmental Affairs would welcome inputs from industry and various stakeholders including from the EU and Sweden but asked for the best practice African example. The most interesting and a directly applicable result was the work by Sims Recycling and its newly introduced WeCare initiative. WeCare is a system to engage schools and small workshop re-furbishers to collect WEEE in exchange for repaired computers. WeCare can be an important building block of subject areas c) and d) above.

Georange prepared a report which was circulated among a large number of Swedish potential stakeholders. Georange also had separate meetings with a number of Swedish recycling companies and has made presentations for the Swedish Environmental Protection Agency and Sida together with Swedish EEE producers (Ericsson and Electrolux), IF Metal, and Chamber Trade. Following such meetings and consultations Georange began to prepare the second mission to South Africa with the objective to engage a few core dedicated stakeholderswhichwould be keen to join the proposed Strategic Alliance and to prepare a first draft Concept Paper for presentation to GIZ.

The next stage will be to continue the advocating and engagement work with meeting companies in Stockholm, Helsinki and with GIZ in Germany and to finalize the concept note for the creation of the proposed Strategic Alliance. This work will be done outside the scope of the Sida supported PDC.

Baseline1: There is currently no WEEE specific law in South Africa. The Department of Environmental Affairs has invited two groups, i.e. EWASA and the IT Industry group to present their respective ideas for the Government's consideration. It appears however that the ideas of the mentioned two groups are not aligned and seem to be influenced by specific interests of each group. This is evidenced by some EEE producers which have decided to take no side in the current process.

Activity1: The EU's WEEE Directive is today's best practice that provides a platform for industry driven take back of WEEE and builds upon the principles of so called Extended Producer Responsibility, EPR. Some Producers apply its Producer Responsibility on all markets also outside the EU while others don't. This creates an uneven level playing field and allows for a number of "free riders". It would thus help committed Producers to reduce costs and simplify operations globally if the legal platform to manage WEEE was as similar as possible from country to country. The project will thus offer assistance to share practical experiences through the partners within the proposed Strategic Alliance

Has led to1: Georange has contacted The Swedish Environment Protection Agency for the possibility that it may assist in providing advice to the Department of Environmental Affairs when the Strategic Alliance has been formed and becomes operational.

Baseline2: One of the huge challenges in building a sustainable e-waste recycling value chain is the collection. Only very small volumes of e-waste are actually collected and even less is treated to any extent in South Africa. The relatively small volumes that are collected are actually bought by individuals or small groups of informal workers. These workers may sell the scrap further to other dealers or do a little dismantling at a backyard site somewhere to increase the value of the material. In South Africa (and in many poor countries) it is common that collectors pay a price for most of the WEEE and thus that owners/consumers expect to get something in return for handing in their end of life equipment. This of course represents a different precondition compared to Sweden and many EU countries.

Activity2: Sims Recycling, as a reputable and up to standard globally active recycling company, has recently launched its so called WeCare program. Through this program a number of cooperating schools will be offered used refurbished computers free of charge or at discounted prices. WeCare also connects to small workshops which repair computers and other EEE. These workshops will be trained and certified by Sims and in return function as collection centers. So will the schools which will return used computers and arrange awareness campaigns for WEEE recycling.

Has led to2: The WeCare program will be an important component of the activities by the Strategic Alliance WeCare may be expanded to include other stakeholders to increase volumes of collected WEEE.

One Example

Sustainable solutions of e-waste management would include proper treatment also of components that are less valuable or has no value. One such category of e-waste is the old CRTs (Catode Ray Tubes). These CRTs contain glass covered with toxic materials which contains, lead, cadmium and mercury. The Swedish company MRT System had offered a solution to a partner company in South Africa and a support grant had been approved by the Swedish Demo Environment. However,the process in South Africa required an EIA (Environment Impact Assessment) to be completed and approved. This obviously took so long that the Swedish Demo Environment was cancelled. Georange has tried to find out alternative funding sources for completion of the EIA and for co funding the delivery of MRTs technical solutions and training. It is unfortunate that Tillväxtverket has closed the

Demo Environment possibility and it seems as if no future funding will become available. Georange will however make sure to have this component included in the scope of the proposed Strategic Alliance.

Poverty Reduction

One of the project's objectives is to improve collection of e-waste. Except for marginal flows of e-waste as residual material from manufacturing and some big businesses and public institutions the large volumes of e-waste remain uncollected while stored or dumped or smuggled abroad. The marginal collection that is going on happens in the informal sector among the cities poor. Any improved collection system will have to involve the poor with the objective that small groups of collectors could establish small businesses which can be registered. The approach taken by this project is to engage foreign reputable up to standard recycling companies to invest and expand in South Africa and to help build up the recycling industry and to organize collection systems by linking up with such small groups of collectors, offering them basic training including health and safety training and tools/equipment. When a foreign company or a foreign/local Joint Venture expands it may employ and train workers from the informal sector and thus offer "real" jobs including some minimum social security packages.

An important aspect in building of a sustainable e-waste recycling industry in South Africa is that it can be done with minimum capital investment in expensive machinery and equipment. The reason is the relative low labor cost and the fact that most of dismantling of WEEE can best be done by human hands. So there are economic incentives for labor intensive methods which have the potential to create many jobs. This means that value is added within South Africa and only those final components that cannot be efficiently processed in the country may be exported to large smelters abroad.

Challenges

The biggest challenge has been the difficulties to engage the foreign industry, in particular the large global producers. There is a general interest among many Producers but when it comes to action and investment most companies back off or become silent. Some recycling companies however see the potential in South Africa and that South Africa offers a new and exciting market with large population and fast growing manufacturing of EEE. South Africa can also become the so called African Example which so many other African countries ask for.

This hesitation or slowness may however change over time. This project has only very limited resources and has lasted for only approximately 6 months. Advocating and convincing large Swedish and multinational companies to engage into take back, applying Producer Responsibility, is something that takes much longer than the project period of this PDC project. However this project has triggered some thinking and provided food for thought to quite a large number of companies and other stakeholders.

Lessons Learned

The lesson learned is, again, that not everything turns out as expected. A relatively well and narrowly defined scope turned out to become quite extensive and beyond the original scope. Furthermore the time it takes to implement a sustainable solution is much longer than the short implementation period of this PDC project.

A concrete example of the time it takes and possibly a sign of culture differences is that one recycling company that Georange now has met twice is very keen to establish itself in South Africa. However, the company continues to state that so far their efforts are to get to know their potential partners and that business comes later. This is of course a good attitude from one perspective but time also costs money and there is certain urgency to get things done on the ground.

PDC

For Georange as an organization this project has led to a number of useful and deepened contacts both in Sweden and in South Africa. At the stage of project application and inception Georange had identified only a few potential partners: two organizations/projects. Furthermore contact was established with the government in South Africa through the Department of Environmental Affairs.

During the course of the project Georange has broadened the contacts to include a large number of stakeholders both in Sweden and in South Africa, c.f. attached Annex 1: List of potential stakeholders.

In addition to the two mentioned organizations/projects contact has been established with a local refinerywith the objective to establish partnerships and/or Joint Ventures in South Africa

Furthermore Georange has facilitated contact between the Department of Environmental Affairs and Swedish EPA for the purpose to help improve South Africa's environment law, specifically regarding e-waste.

The work with this PDC together with previous experience from working with e-waste solutions in Africa has led to the idea to create a Strategic Alliance. The Alliance should consist of a few dedicated private and globally active Producers and recycling companies which share the goal of improving e-waste situation in Sub Sahara Africa. This corporate alliance should seek complementary funding in line with a Private Public Partnership Concept to implement a number of priority activities on the ground in several countries in Africa. The potential funding partners/sources are as currently foreseen:

Germany's GIZ under its Strategic Alliance Concept, cf www.developpp.de.

An outline of this concept is attached as Annex 2

Benefit to Partner Organizations

The partners of the Strategic Alliance will benefit in different ways. Those partners that are Producers will benefit from reduced costs when recycling of their products can take place in South Africa (or in any country where the Producer has business). Recycling companies (Sims) and smelters (Boliden) will benefit from larger volumes of e-waste that they can process in South Africa and source from South Africa respectively. Companies which manufacture equipment for recycling industry may benefit from sales of such equipment.

The purpose is that Sims Recycling and possibly also other foreign up to standard recycling companies shall either create formal joint ventures with some of these local companies or sign cooperation agreements with them. The objective is that the local companies should be trained and thus reach the required standards faster than if they need to do this on their own. In order to create a sustainable value chain each link needs to meet such minimum standards.

Side Effects/Spin Off Effects

The main side effect which was not foreseen at the project's inception is the idea to create the mentioned Strategic Alliance.

The project brought Georange some new contacts which have led to partnership with Elkretsen http://elektronikatervinning.com/en/ and Elektronikåtervinningsföreningen http://elektronikatervinning.com/en/ . Together with the organizer Nordic Publishing www.nordicpublishing.se Georange arranged an international conference held 10-12 June in Skellefteå, Sweden. The conference http://www.circularmaterialsexpo.se/ is an international meeting place with a focus on the possibilities of materials recycling and its importance in a circular economy. The purpose is to create an arena where stakeholders involved in the circular economy meet, exchange thoughts and ideas, discuss conditions and solutions and work together to identify new business opportunities.

The Thematic Priorities

Gender:

This project has so far focused on gender aspect only indirectly. It is thus assumed that women (either as collectors and scrap workers or as dependents to male collectors and workers) will benefit from increased incomes and thereby improved livelihood as described elsewhere in this report. When the Strategic Alliance is created the project management of the alliance may put a specific focus on women and encourage women entrepreneurs to form the small collectors/dismantler companies that can supply material to the recycling companies. Further cooperation with Chamber Trade in Sweden may help secure this objective.

Environment:

The mitigation of negative impact on environment and reduced climate footprint are key objectives The unsustainable practices that are currently the case in South Africa do not for example take care of some WEEE which could be classified as “difficult” or of no or little value, c.f. Example above. Examples of such equipment are for example old TV tubes so called CRTs and fluorescent lamps. In an informal setting this type of WEEE attracts no one since there is just a cost to treat them. A sustainable system has to be built on financial incentives that make the incomes from valuable components such as mobile phones and many other products pay for the recycling of also the non valuable ones. This is one reason why Georange has advocated for the introduction in South Africa of the principles of the EUs WEEE directive into the new environment law.

Furthermore recycling of WEEE contributes substantially to the reduction of CO2 emission. One ton of copper produced from secondary source (e-waste) reduces the climate footprint by some 60% compared to the extraction of one ton copper from primary source (mining). This is the reason why WEEE may not be called waste but a resource that needs to be reused. With the current small volumes of WEEE that are brought into the recycling stream in South Africa there is thus a huge potential to help mitigate climate change as will be done with the proposed Strategic Alliance.

Democracy and Human Rights:

This project’s linkage to democracy and human rights is related to the objective of transforming informal activities to formal. Only in a formal setting can poor workers become organized and get a chance to a degree of democratic and human rights. Georange has therefore approached IF Metall as an important partner in the proposed alliance which can help in the work of transforming informal to formal activities.

The Perspectives of the Poor and the Rights Perspective

There are two aspects in this project that relates directly to poverty mitigation and the rights of the poor:

1. One important link of a sustainable e-waste recycling value chain is collection. In South Africa and also in most other countries in Africa collection is done by the poorest of the poor. By organizing these people in groups which may be linked to local/foreign recycling companies and to which the poor can sell their collected items they are helped to increase their incomes and thus better able to sustain their lives and support dependents.
2. A sustainable e-waste solution can never include the informal sector. It is clear that the transformation from informal to formal may take time since as too fast transformation may take many jobs away and thus cause more poverty and social misery than necessary. The method is that while local recycling companies grow their businesses they may recruit people form the informal sector. In this way informal becomes formal, some additional tax is paid to government and at least a minimal social security is provided. Recycling companies may assist to create small companies among collectors which are registered and thus also become examples of informal to formal transition. It is probably correct to say that formalization is a condition for strengthening of peoples’ rights

Other Information

Georamge considers improved WEEE management in all developing countries as an area which contains many priority aspects of poverty mitigation, human rights, environment improvement and substantial climate footprint reduction. This PDC has been a valuable step towards initiating some activities in South Africa. Considering the fact that Sweden has a relatively well functioning WEEE management system with the highest recovery rates in the world Sweden can become a leading nation in helping developing countries all over the world to improve their e-waste management system. Sweden has a tradition of cooperation among stakeholders, private and public which is a condition to make a functioning system. Since the Western world has been aware of the growing problem of e-waste for some time only very few initiatives have begun to really address the problems but also the opportunities with e-waste in many developing countries. Georange would like to propose to Sida to consider future support to and interventions which relates to e-waste

Financial Report